



**2020 Capitalization Rate Study  
Gas Pipelines**

*FINAL*

*Completed: April 28, 2020*

## MONTANA DEPARTMENT OF REVENUE

### Yield Capitalization Rate Conclusion

Industry: Gas Pipelines

2020 Assessment Year

#### Capital Structure <sup>[1]</sup>

Equity	55.00%
Debt	45.00%

#### Equity Cost of Capital

		Weighting
Capital Asset Pricing Model - Ex Post <sup>[2]</sup>	11.55%	35%
Capital Asset Pricing Model - Ex Ante <sup>[2]</sup>	9.01%	35%
3 Stage Dividend Discount Model - Dividends <sup>[3]</sup>	16.35%	15%
3 Stage Dividend Discount Model - Earnings <sup>[3]</sup>	14.70%	15%
Weighted Average	11.85%	100%
Selected Cost of Equity	<u>11.85%</u>	

#### Debt Cost of Capital

		Weighting
A - Mergent's - Avg. YTM of A Rated Corporate Bonds <sup>[4]</sup>	3.36%	0%
Baa - Mergent's - Avg. YTM of Baa Rated Corporate Bonds <sup>[4]</sup>	3.88%	0%
Ba - MTDOR - Avg. YTM of Ba Rated Corporate Bonds <sup>[5]</sup>	6.58%	100%
Weighted Average	6.58%	100%
Selected Cost of Debt	<u>6.60%</u>	

### Weighted Average Cost of Capital (WACC)

Source of Capital	Capital Structure	Cost of Capital	Marginal Tax Rate	After-tax Cost of Capital	Weighted Cost
Equity	55.00%	11.85%		11.85%	6.52%
Debt	45.00%	6.60%	24.00%	5.02%	2.26%
<b>WACC</b>	<b>100.00%</b>				<b>8.77%</b>
<b>WACC (Rounded)</b>					<b>8.80%</b>

#### Notes

[1] From worksheet: Capital Structure

[2] From worksheet: Capital Asset Pricing Model Summary

[3] From worksheet: Yield Equity Summary

[4] January 2020, Mergent Bond Record

[5] Montana Department of Revenue High Yield Debt Study

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**MONTANA DEPARTMENT OF REVENUE**

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**Direct Capitalization Rate Conclusion**  
**Industry: Gas Pipelines**  
**2020 Assessment Year**

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**Capital Structure <sup>[1]</sup>**

Equity	<b>55.00%</b>
Debt	<b>45.00%</b>

**Equity Capitalization Rate <sup>[2]</sup>**

NOI After-tax	<b>9.35%</b>
GCF	<b>16.70%</b>

**Debt Capitalization Rate <sup>[3]</sup>**

Calculated Current Yield	<b>4.60%</b>
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**NOI After-tax Direct Capitalization Rate**

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Source of Capital	Capital Structure	Capitalization Rate	Marginal Tax Rate	After-tax Capitalization Rate	Weighted Capitalization Rate
Equity	55.00%	9.35%		9.35%	5.14%
Debt	45.00%	4.60%	24.00%	3.50%	1.57%
<b>Total</b>	<b>100.00%</b>				<b>6.72%</b>
<b>Total (Rounded)</b>					<b>6.80%</b>

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**GCF Direct Capitalization Rate**

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Source of Capital	Capital Structure	Capitalization Rate	Marginal Tax Rate	After-tax Capitalization Rate	Weighted Capitalization Rate
Equity	55.00%	16.70%		16.70%	9.19%
Debt	45.00%	4.60%	24.00%	3.50%	1.57%
<b>WACC</b>	<b>100.00%</b>				<b>10.76%</b>
<b>Total (Rounded)</b>					<b>10.80%</b>

Notes:

[1] From worksheet: Capital Structure

[2] From worksheet: Direct Equity Summary

[3] From worksheet: Calculated Current Yield

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**MONTANA DEPARTMENT OF REVENUE**

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**Selection of Guideline Companies**

**Industry: Gas Pipelines**

**2020 Assessment Year**

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**Screening Requirements:**

The universe of companies is all companies listed in Value Line under the Pipeline MLPs industry.

Companies were then selected using the following screening criteria:

1. Primarily engaged in the gathering, treating, processing, and/or transportation of natural gas and natural gas liquids.
2. Actively traded on an American exchange.
3. Incorporated as a limited partnership.
4. Primarily onshore operations.
5. No significant merger & acquisition activity during the year.

<b>Company Ticker</b>	<b>Transportation etc. of NG &amp; NGL's</b>	<b>Actively traded on an American Exchange</b>	<b>Incorporated as LP</b>	<b>Primarily Onshore Operations</b>	<b>Consider as Potential Guideline Company</b>	<b>Not Engaged in Material M&amp;A Activity</b>	<b>Use as Guideline Company</b>	<b>Note</b>
BKEP	No							
BPMP	No							
CAPL	No							
CEQP	No							
CNXM	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
CQP	No							
DCP	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
DKL	No							
ENBL	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
EPD	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
EQM	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
ET	No							
FGP	No							
GEL	No							
GLP	No							
GPP	No							
HEP	No							

## MONTANA DEPARTMENT OF REVENUE

### Selection of Guideline Companies

#### Industry: Gas Pipelines

#### 2020 Assessment Year

#### Screening Requirements:

The universe of companies is all companies listed in Value Line under the Pipeline MLPs industry.

Companies were then selected using the following screening criteria:

1. Primarily engaged in the gathering, treating, processing, and/or transportation of natural gas and natural gas liquids.
2. Actively traded on an American exchange.
3. Incorporated as a limited partnership.
4. Primarily onshore operations.
5. No significant merger & acquisition activity during the year.

Company Ticker	Transportation etc. of NG & NGL's	Actively traded on an American Exchange	Incorporated as LP	Primarily Onshore Operations	Consider as Potential Guideline Company	Not Engaged in Material M&A Activity	Use as Guideline Company	Note
HESM	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
MMLP	Yes	Yes	Yes	No				
MMP	No							
MPLX	No							
NBLX	No							
NGL	No							
NS	No							
OMP	No							
PAA	No							
PAGP	No							
PBFX	No							
PSXP	No							
RTLX	No							
SHLX	No							
SMLP	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
SPH	No							
SRLP	No							
TCP	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
TGE	No							
WES	No							

# MONTANA DEPARTMENT OF REVENUE

Support for Capital Structure

Industry: Gas Pipelines

2020 Assessment Year

(\$ and Shares Outstanding In Millions, Except Per Share Amounts)

A	B	C	D	E	F	G	H	I	J	K	L	M	N
Ticker	Company	Industry Group	Financial Strength	Shares Outstanding	End of Year Closing Stock Price	MV Common Stock	MV Preferred Stock	MV Long Term Debt	PV of Operating Leases	Total Common, Preferred, LT Debt, & Op Leases	% Common	% Preferred	% Debt & Op Leases
		Value Line	Value Line	10-K	Yahoo	ExF	10-K	10-K	10-K	G+H+I+J	G/K	H/K	(I+J)/K
							Note [1]	Note [2]					
CNXM	CNX Midstream Partners LP	PIPEMLP	B	64	16.46	1,049	0	371	4	1,424	74%	0%	26%
DCP	DCP Midstream LP	PIPEMLP	B+	208	24.49	5,102	751	6,130	112	12,095	42%	6%	52%
ENBL	Enable Midstream Part.	PIPEMLP	B+	435	10.03	4,365	362	4,039	40	8,806	50%	4%	46%
EPD	Enterprise Products	PIPEMLP	B++	2,189	28.16	61,649	0	30,845	212	92,706	66%	0%	34%
EQM	EQM Midstream Part.	PIPEMLP	B+	200	29.91	5,996	1,184	5,724	52	12,955	46%	9%	45%
HESM	Hess Midstream Partners LP	PIPEMLP	B+	18	22.68	407	0	1,820	1	2,228	18%	0%	82%
SMLP	Summit Midstream Partners LP	PIPEMLP	C+	93	3.31	309	294	1,614	4	2,221	14%	13%	73%
TCP	TC PipeLines LP	PIPEMLP	B	71	42.30	3,016	0	2,111	0	5,127	59%	0%	41%
<b>All Companies</b>						81,894	2,590	52,654	425	137,562	<b>60%</b>	<b>2%</b>	<b>39%</b>
<b>Average</b>											<b>46%</b>	<b>4%</b>	<b>50%</b>
<b>Median</b>											<b>48%</b>	<b>2%</b>	<b>45%</b>
<b>Trimmed Average</b>											<b>47%</b>	<b>3%</b>	<b>48%</b>
High											74%	13%	82%
Low											14%	0%	26%
<b>Selected</b>											<b>55%</b>		<b>45%</b>

Notes:

[1] Market value of preferred stock assumed to equal book value

[2] Market value of debt is fair value of long term debt from 10-K notes

**MCA 15-1-210, rationale for changes to guideline companies:**

2020 - Added CNXM, ENBL, HESM.

2020 - Removed MMLP due to large offshore business segment.

TY 2020 Median	48%	2%	45%
TY 2019 Median	55%	0%	45%
TY 2018 Median	66%	0%	34%
3YR AVG	56%	1%	41%

## MONTANA DEPARTMENT OF REVENUE

Capital Asset Pricing Model (CAPM)

Industry: Gas Pipelines

2020 Assessment Year

$$k_e = R_f + \beta \times ERP$$

		<i>Ex Post</i>	<i>Ex Ante</i>
$k_e =$	Cost of Equity	<b>11.55%</b>	<b>9.01%</b>
$R_f =$	Risk Free Rate	2.25%	2.25%
$\beta =$	Beta	1.30	1.30
$ERP =$	Equity Risk Premium ( $R_m - R_f$ )	7.15%	5.20%
$R_m =$	Market Rate of Return	9.40%	7.45%

### Risk Free Rate Measures ( $R_f$ ):

The Value Line Investment Survey: Selection & Opinion<sup>[1]</sup>

January 3, 2020 Page 1325

Selected Yields on Taxable U.S. Treasury Securities as of 12/24/19

10-year 1.90%

30-year 2.33%

Federal Reserve Statistical Release<sup>[2]</sup> and U.S. Department of the Treasury, Daily Treasury Yield Curve Rates<sup>[3]</sup>

U.S. government securities, Treasury constant maturities, Nominal, December 31, 2019

10-year 1.92%

20-year 2.25%

30-year 2.39%

**Risk Free Rate Selected** **2.25%**

### Notes

[1] "Value Line Selection & Opinion", Value Line (January 3, 2020)

[2] <https://www.federalreserve.gov/datadownload/Choose.aspx?rel=H.15>

[3] <https://www.treasury.gov/resource-center/data-chart-center/interest-rates/>

### Ex Post - Equity Risk Premium Measures ( $ERP = R_m - R_f$ )

Duff & Phelps, 2020 Cost of Capital Navigator

		$R_m$ <sup>[4]</sup>	$R_m$	$R_f$	ERP
ERP "Historical" - <i>Ex Post</i>	Arithmetic Avg.	9.40%	9.40%	2.25%	7.15%
ERP "Supply-side" - <i>Ex Post</i>	Arithmetic Avg.	8.42%	8.42%	2.25%	6.17%
<b>Ex Post Equity Risk Premium Selected</b>		<b>9.40%</b>		<b>2.25%</b>	<b>7.15%</b>

**MONTANA DEPARTMENT OF REVENUE**  
 Capital Asset Pricing Model (CAPM)  
 Industry: Gas Pipelines  
 2020 Assessment Year

$$k_e = R_f + \beta \times ERP$$

Ex Ante - Equity Risk Premium Measures (ERP = Rm - Rf)

**Ex Ante - Equity Risk Premium Measures (ERP =  $R_m - R_f$ )**

DOR 3 Stage Dividend Growth Model, S & P 500, See Exhibit

	$\frac{R_m^{[4]}}{R_m}$	$\frac{R_m}{R_f}$	$\frac{R_f}{ERP}$
ERP - <i>Ex Ante</i>	7.35%	7.35%	2.25%

Duff & Phelps, 2020 Cost of Capital Navigator

	<u>R<sub>m</sub></u> <sup>[4]</sup>	<u>R<sub>m</sub></u>	<u>R<sub>t</sub></u>	<u>ERP</u>
ERP "Conditional" - Ex Ante		8.00%	3.00%	5.00%

Damodaran Implied ERP (Jan 8, 2020)

	$R_m^{[4]}$	$R_m$	$R_f$	ERP
Implied Premium (FCFE) - <i>Ex Ante</i>	7.45%	7.12%	1.92%	5.20%
Implied Premium (FCFE with sustainable payout) - <i>Ex Ante</i>	7.31%	6.98%	1.92%	5.06%

	$R_m^{[4]}$	$R_m$	$R_f$	ERP
Average	7.37%	7.36%		5.09%
Median	7.35%	7.24%		5.08%
High	7.45%	8.00%		5.20%
Low	7.31%	6.98%		5.00%

Equity Risk Premium Selected	7.45%	2.25%	5.20%
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Notes

[4]  $R_m$  estimated using selected Risk Free Rate ( $R_f$ )



## MONTANA DEPARTMENT OF REVENUE

Support for Beta Selection in CAPM

Industry: Gas Pipelines

2020 Assessment Year

A	B	C	D	E
Ticker	Company	Industry Group	Financial Strength	Beta
		<i>Value Line</i>	<i>Value Line</i>	<i>Value Line</i>
CNXM	CNX Midstream Partners LP	PIPEMLP	B	1.25
DCP	DCP Midstream LP	PIPEMLP	B+	1.75
ENBL	Enable Midstream Part.	PIPEMLP	B+	1.25
EPD	Enterprise Products	PIPEMLP	B++	1.25
EQM	EQM Midstream Part.	PIPEMLP	B+	1.15
HESM	Hess Midstream Partners LP	PIPEMLP	B+	1.20
SMLP	Summit Midstream Partners LP	PIPEMLP	C+	1.50
TCP	TC PipeLines LP	PIPEMLP	B	1.30
<b>Average</b>				<b>1.33</b>
<b>Median</b>				<b>1.25</b>
<b>Trimmed Average</b>				<b>1.29</b>
High				1.75
Low				1.15
<b>Selected</b>				<b>1.30</b>

# MONTANA DEPARTMENT OF REVENUE

Inflation & Real Growth  
Industry: Gas Pipelines  
2020 Assessment Year

A	B	C	D	Nominal Growth	
				E	F
Source Description	Inflation (CPI)	Real Growth (GDP)	Nominal Growth	Low	High
Livingston Survey <sup>[1]</sup>	2.19%	2.14%	4.33%		
Survey of Professional Forecasters <sup>[2]</sup>	2.23%	2.03%	4.26%		
Congressional Budget Office <sup>[3]</sup>	2.40%	2.20%	4.60%		
<b>Average</b>	<b>2.27%</b>	<b>2.12%</b>	<b>4.40%</b>		
<b>Median</b>	<b>2.23%</b>	<b>2.14%</b>	<b>4.37%</b>		
High	2.40%	2.20%	4.60%		
Low	2.19%	2.03%	4.22%		
<b>Selected</b>	<b>2.20%</b>	<b>2.20%</b>	<b>4.40%</b>	<b>4.22%</b>	<b>4.60%</b>

Inflationary Trend Factors						
Year	Dec. CPI-U Index	Percent Change From Previous	Dec. to Dec. Conversion Factor	Annual Avg. CPI-U Index	Percent Change From Previous	Annual Conversion Factor
	<i>Note [5]</i>	<i>Note [6]</i>	<i>Note [7]</i>	<i>Note [5]</i>	<i>Note [6]</i>	<i>Note [7]</i>
2007	210.036		1.2235	207.342		1.2330
2008	210.228	0.1%	1.2224	215.303	3.7%	1.1874
2009	215.949	2.6%	1.1900	214.537	-0.4%	1.1917
2010	219.179	1.5%	1.1724	218.056	1.6%	1.1724
2011	225.672	2.9%	1.1387	224.939	3.1%	1.1366
2012	229.601	1.7%	1.1192	229.594	2.0%	1.1135
2013	233.049	1.5%	1.1027	232.957	1.4%	1.0974
2014	234.812	0.8%	1.0944	236.736	1.6%	1.0799
2015	236.525	0.7%	1.0865	237.017	0.1%	1.0786
2016	241.432	2.0%	1.0644	240.007	1.2%	1.0652
2017	246.524	2.1%	1.0424	245.120	2.1%	1.0430
2018	251.233	1.9%	1.0229	251.107	2.4%	1.0181
2019	256.974	2.2%	1.0000	255.657	1.8%	1.0000

## Notes

[1] Federal Reserve Bank of Philadelphia The Livingston Survey December 13, 2019 Table 3 Inflation Rate and Real GDP mean

<https://www.philadelphiafed.org/research-and-data/real-time-center/livingston-survey>

[2] Federal Reserve Bank of Philadelphia Survey of Professional Forecasters February 14, 2020 Table 8 and Table 9 Average over next 10-Year mean

<https://www.philadelphiafed.org/research-and-data/real-time-center/survey-of-professional-forecasters/2020/survq120>

[3] Congressional Budget Office, The Budget and Economic Outlook: 2020 to 2030, Table 2-1

<https://www.cbo.gov/about/products/budget-economic-data#4>

[5] Historical Consumer Price Index for All Urban Consumers (CPI-U): U.S. city average, all items, index averages (1982-84=100, unless otherwise noted)

<https://www.bls.gov/cpi/tables/supplemental-files/historical-cpi-u-202001.pdf>

[6] (Row year - Previous Year) / Row Year

[7] Most current year / Row year

## MONTANA DEPARTMENT OF REVENUE

### 3 Stage Dividend Discount Model (DDM)

Industry: Gas Pipelines

2020 Assessment Year

$$k_e = (D_1 / P_0) + g$$

$k_e$  = Cost of Equity

$D_1$  = Expected Dividend

$P_0$  = Current Price Per Share

$g$  = Sustainable Long-Term Growth

A	B	C	D	E	F	G	H	I
Ticker	Company	2019 Year End Stock Price	2020 Est Div'ds Decl'd per sh	Expected Equity Payout Yield	Sustainable Long-Term Growth Rate <sup>[1]</sup>	Sustainable Long-Term Growth Rate <sup>[1]</sup>	Cost of Equity Dividend Growth	Cost of Equity Earnings Growth
		<i>Yahoo</i>	<i>Value Line</i>	<i>D/C</i>	<i>Dividends</i>	<i>Earnings</i>	<i>E+F</i>	<i>E+G</i>
		$P_0$	$D_1$	$D_1/P_0$	$g$	$g$	$k_e$	$k_e$
CNXM	CNX Midstream Partners LP	16.46	0.00	0.00%	0.00%	0.00%		
DCP	DCP Midstream LP	24.49	3.12	12.74%	4.06%	13.31%	16.80%	26.05%
ENBL	Enable Midstream Part.	10.03	1.32	13.16%	10.13%	20.71%	23.29%	33.87%
EPD	Enterprise Products	28.16	1.81	6.43%	9.47%	5.61%	15.90%	12.04%
EQM	EQM Midstream Part.	29.91	4.64	15.51%	1.25%	1.77%	16.76%	17.28%
HESM	Hess Midstream Partners LP	22.68	0.00	0.00%	0.00%	0.00%		
SMLP	Summit Midstream Partners LP	3.31	0.00	0.00%	0.00%	0.00%		
TCP	TC PipeLines LP	42.30	0.00	0.00%	0.00%	0.00%		
<b>Average</b>							<b>18.19%</b>	<b>22.31%</b>
<b>Median</b>							<b>16.78%</b>	<b>21.67%</b>
High							23.29%	33.87%
Low							15.90%	12.04%
<b>Selected</b>							<b>16.35%</b>	<b>14.70%</b>

*Average of EPD & EQM:* 16.33% 14.66%

Notes:

[1] From worksheet: DDM Sustainable Long-Term Growth

## MONTANA DEPARTMENT OF REVENUE

Support for DDM - Short Term Growth Rate Calculations

Industry: Gas Pipelines

2020 Assessment Year

A	B	C	D	E	F	G
Ticker	Company	End of Year Closing Stock Price	Div'ds Decl'd per sh 2020 Est	Expected Dividend Yield	Div'ds Decl'd per sh 2023-2025 Est	Short-Term Growth Rate
		<i>Yahoo</i>	<i>Value Line</i>	<i>D / C</i>	<i>Value Line</i>	<i>Note [1]</i>
CNXM	CNX Midstream Partners LP	16.46	0.00	0.00%		
DCP	DCP Midstream LP	24.49	3.12	12.74%	3.65	4.00%
ENBL	Enable Midstream Part.	10.03	1.32	13.16%	2.00	10.95%
EPD	Enterprise Products	28.16	1.81	6.43%	2.80	11.52%
EQM	EQM Midstream Part.	29.91	4.64	15.51%	4.80	0.85%
HESM	Hess Midstream Partners LP	22.68	0.00	0.00%		
SMLP	Summit Midstream Partners LP	3.31	0.00	0.00%		
TCP	TC PipeLines LP	42.30	0.00	0.00%		

A	B	C	D	E
Ticker	Company	Earnings per share 2020 Est	Earnings per share 2023-2025 Est	Short-Term Growth Rate
		<i>Value Line</i>	<i>Value Line</i>	<i>Note [1]</i>
CNXM	CNX Midstream Partners LP	0.00	0.00	
DCP	DCP Midstream LP	1.45	2.50	14.59%
ENBL	Enable Midstream Part.	1.10	2.50	22.78%
EPD	Enterprise Products	2.20	2.80	6.21%
EQM	EQM Midstream Part.	5.10	5.40	1.44%
HESM	Hess Midstream Partners LP	0.00	0.00	
SMLP	Summit Midstream Partners LP	0.00	0.00	
TCP	TC PipeLines LP	0.00	0.00	

Notes:

[1] 5 year compound annual growth rate (CAGR) - 4 periods

**MONTANA DEPARTMENT OF REVENUE**

Support for DDM - Sustainable Long Term Growth

Industry: Gas Pipelines

2020 Assessment Year

Dividend Growth Rate									Stage 1				
Ticker	Company	Year End Stock Price	Expected Short-Term Dividend Growth Rate	Expected Long-Term Growth Rate	Expected Dividend Yield	Internal Rate of Return	Implied Sustainable Long-Term Growth Rate (g)	Initial Investment	D <sub>1</sub>	D <sub>2</sub>	D <sub>3</sub>	D <sub>4</sub>	D <sub>5</sub>
		Yahoo	Note [1]	Note [2]	$D_1/P_0$	$K_e = IRR \text{ of } D_1:D_{500}$	$g = IRR - Div. \text{ Yield}$						
CNXM	CNX Midstream Partners LP	16.46	0.00%	4.40%	0.00%			(16.46)	0.00	0.00	0.00	0.00	0.00
DCP	DCP Midstream LP	24.49	4.00%	4.40%	12.74%	16.80%	4.06%	(24.49)	3.12	3.24	3.37	3.51	3.65
ENBL	Enable Midstream Part.	10.03	10.95%	4.40%	13.16%	23.29%	10.13%	(10.03)	1.32	1.46	1.62	1.80	2.00
EPD	Enterprise Products	28.16	11.52%	4.40%	6.43%	15.90%	9.47%	(28.16)	1.81	2.02	2.25	2.51	2.80
EQM	EQM Midstream Part.	29.91	0.85%	4.40%	15.51%	16.76%	1.25%	(29.91)	4.64	4.68	4.72	4.76	4.80
HESM	Hess Midstream Partners LP	22.68	0.00%	4.40%	0.00%			(22.68)	0.00	0.00	0.00	0.00	0.00
SMLP	Summit Midstream Partners LP	3.31	0.00%	4.40%	0.00%			(3.31)	0.00	0.00	0.00	0.00	0.00
TCP	TC PipeLines LP	42.30	0.00%	4.40%	0.00%			(42.30)	0.00	0.00	0.00	0.00	0.00

Earnings Growth Rate									Stage 1				
Ticker	Company	Year End Stock Price	Expected Short-Term Earnings Growth Rate	Expected Long-Term Growth Rate	Expected Dividend Yield	Internal Rate of Return	Implied Sustainable Long-Term Growth Rate (g)	Initial Investment	D <sub>1</sub>	D <sub>2</sub>	D <sub>3</sub>	D <sub>4</sub>	D <sub>5</sub>
		Yahoo	Note [1]	Note [2]	$D_1/P_0$	$K_e = IRR \text{ of } D_1:D_{500}$	$g = IRR - Div. \text{ Yield}$						
CNXM	CNX Midstream Partners LP	16.46	0.00%	4.40%	0.00%			(16.46)	0.00	0.00	0.00	0.00	0.00
DCP	DCP Midstream LP	24.49	14.59%	4.40%	12.74%	26.05%	13.31%	(24.49)	3.12	3.58	4.10	4.69	5.38
ENBL	Enable Midstream Part.	10.03	22.78%	4.40%	13.16%	33.87%	20.71%	(10.03)	1.32	1.62	1.99	2.44	3.00
EPD	Enterprise Products	28.16	6.21%	4.40%	6.43%	12.04%	5.61%	(28.16)	1.81	1.92	2.04	2.17	2.30
EQM	EQM Midstream Part.	29.91	1.44%	4.40%	15.51%	17.28%	1.77%	(29.91)	4.64	4.71	4.77	4.84	4.91
HESM	Hess Midstream Partners LP	22.68	0.00%	4.40%	0.00%			(22.68)	0.00	0.00	0.00	0.00	0.00
SMLP	Summit Midstream Partners LP	3.31	0.00%	4.40%	0.00%			(3.31)	0.00	0.00	0.00	0.00	0.00
TCP	TC PipeLines LP	42.30	0.00%	4.40%	0.00%			(42.30)	0.00	0.00	0.00	0.00	0.00

Notes:

[1] From worksheet: DDM Short Term Growth Rate Calculations

[2] From worksheet: Inflation & Real Growth

**MONTANA DEPARTMENT OF REVENUE**

**Support for DDM - Sustainable Long Term Growth**

**Industry: Gas Pipelines**

**2020 Assessment Year**

Dividend	Stage 2															Stage 3		
Ticker	D <sub>6</sub>	D <sub>7</sub>	D <sub>8</sub>	D <sub>9</sub>	D <sub>10</sub>	D <sub>11</sub>	D <sub>12</sub>	D <sub>13</sub>	D <sub>14</sub>	D <sub>15</sub>	D <sub>16</sub>	D <sub>17</sub>	D <sub>18</sub>	D <sub>19</sub>	D <sub>20</sub>	D <sub>21</sub>	D <sub>22</sub>	D <sub>500</sub>
CNXM	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
DCP	3.80	3.95	4.11	4.27	4.45	4.63	4.81	5.01	5.21	5.42	5.64	5.86	6.10	6.34	6.60	6.89	7.19	6,247,692,626
ENBL	2.21	2.44	2.70	2.98	3.30	3.64	4.03	4.45	4.92	5.43	6.00	6.64	7.33	8.10	8.95	9.35	9.76	8,478,181,904
EPD	3.11	3.45	3.83	4.26	4.73	5.25	5.83	6.48	7.19	7.99	8.87	9.85	10.94	12.14	13.49	14.08	14.70	12,768,578,284
EQM	4.85	4.90	4.96	5.01	5.07	5.12	5.18	5.23	5.29	5.35	5.41	5.47	5.52	5.58	5.65	5.89	6.15	5,345,118,504
HESM	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
SMLP	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
TCP	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0

Earnings	Stage 2															Stage 3		
Ticker	D <sub>6</sub>	D <sub>7</sub>	D <sub>8</sub>	D <sub>9</sub>	D <sub>10</sub>	D <sub>11</sub>	D <sub>12</sub>	D <sub>13</sub>	D <sub>14</sub>	D <sub>15</sub>	D <sub>16</sub>	D <sub>17</sub>	D <sub>18</sub>	D <sub>19</sub>	D <sub>20</sub>	D <sub>21</sub>	D <sub>22</sub>	D <sub>500</sub>
CNXM	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
DCP	6.13	6.98	7.95	9.06	10.32	11.75	13.39	15.25	17.37	19.78	22.54	25.67	29.24	33.31	37.94	39.61	41.36	35,923,571,241
ENBL	3.65	4.43	5.39	6.55	7.96	9.68	11.76	14.30	17.38	21.13	25.69	31.22	37.95	46.14	56.08	58.55	61.13	53,096,426,077
EPD	2.44	2.59	2.75	2.92	3.10	3.29	3.49	3.70	3.92	4.16	4.42	4.68	4.97	5.27	5.59	5.84	6.10	5,296,480,610
EQM	4.99	5.08	5.16	5.24	5.33	5.42	5.50	5.59	5.69	5.78	5.87	5.97	6.07	6.17	6.27	6.54	6.83	5,933,802,936
HESM	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
SMLP	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
TCP	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0

# MONTANA DEPARTMENT OF REVENUE

Support for Yield Capitalization Rate - Debt Rating

Industry: Gas Pipelines

2020 Assessment Year

A	B	C	D	E	F
Ticker	Company	Industry Group	Financial Strength	Moody's Long Term Rating	Numeric Rating
		<i>Value Line</i>	<i>Value Line</i>	<i>Moodys.com</i>	
CNXM	CNX Midstream Partners LP	PIPEMLP	B	B1	14
DCP	DCP Midstream LP	PIPEMLP	B+	Ba2	12
ENBL	Enable Midstream Part.	PIPEMLP	B+	Baa3	10
EPD	Enterprise Products	PIPEMLP	B++		
EQM	EQM Midstream Part.	PIPEMLP	B+	Ba2	12
HESM	Hess Midstream Partners LP	PIPEMLP	B+		
SMLP	Summit Midstream Partners LP	PIPEMLP	C+	Ba3	13
TCP	TC PipeLines LP	PIPEMLP	B		
<b>All Companies</b>					
<b>Average</b>					<b>12</b>
<b>Median</b>					<b>12</b>
<b>Trimmed Average</b>					<b>12</b>
High					14
Low					10
<b>Selected</b>				<b>Ba2</b>	<b>12</b>

**MONTANA DEPARTMENT OF REVENUE**

Support for Direct Capitalization - Equity Capitalization Rates

Industry: Gas Pipelines

2020 Assessment Year

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
Ticker	Company	End of Year Closing Stock Price	VL Historic EPS	VL Est EPS	VL Historic P/E Ratio	VL Est P/E Ratio	Ke Estimate - Earnings (Hist. P/E)	Ke Estimate - Earnings (Est. P/E)	VL Historic Cash Flow Per Share	VL Est Cash Flow Per Share	VL Historic P/CF Ratio	VL Est P/CF Ratio	Ke Estimate - Cash Flow (Hist. P/CF)	Ke Estimate - Cash Flow (Est. P/CF)	Market Value of Equity	Book Value of Equity	MTBR
		Yahoo	Value Line	Value Line	C/D	C/E	1/F	1/G	Value Line	Value Line	C/J	C/K	1/L	1/M	Price x Shrs	10-K	P/Q
CNXM	CNX Midstream Partners LP	16.46	2.44	0.00	6.75		14.82%		3.15	0.00	5.23		19.14%		1,049	388	2.71
DCP	DCP Midstream LP	24.49	(1.05)	1.45	(23.32)	16.89		5.92%	3.31	1.70	7.40	14.41	13.52%	6.94%	5,102	5,854	0.87
ENBL	Enable Midstream Part.	10.03	0.98	1.10	10.23	9.12	9.77%	10.97%	2.04	1.90	4.92	5.28	20.34%	18.94%	4,365	7,010	0.62
EPD	Enterprise Products	28.16	2.09	2.20	13.47	12.80	7.42%	7.81%	2.73	2.95	10.32	9.55	9.69%	10.48%	61,649	24,764	2.49
EQM	EQM Midstream Part.	29.91	5.07	5.10	5.90	5.86	16.95%	17.05%	9.15	5.90	3.27	5.07	30.59%	19.73%	5,996	4,018	1.49
HESM	Hess Midstream Partners LP	22.68	1.25	0.00	18.14		5.51%		7.14	0.00	3.18		31.48%		407	131	3.11
SMLP	Summit Midstream Partners LP	3.31	(4.61)	0.00	(0.72)				1.61	0.00	2.06		48.64%		309	470	0.66
TCP	TC PipeLines LP	42.30	3.74	0.00	11.31		8.84%		4.89	0.00	8.65		11.56%		3,016	656	4.60
<b>Average</b>					<b>5.22</b>	<b>11.17</b>	<b>10.55%</b>	<b>10.44%</b>			<b>5.63</b>	<b>8.58</b>	<b>23.12%</b>	<b>14.02%</b>			<b>2.07</b>
<b>Median</b>					<b>8.49</b>	<b>10.96</b>	<b>9.31%</b>	<b>9.39%</b>			<b>5.07</b>	<b>7.41</b>	<b>19.74%</b>	<b>14.71%</b>			<b>1.99</b>
<b>Trimmed Average</b>					<b>7.82</b>	<b>10.96</b>	<b>10.21%</b>	<b>9.39%</b>			<b>5.44</b>	<b>7.41</b>	<b>21.10%</b>	<b>14.71%</b>			<b>1.89</b>
High					18.14	16.89	16.95%	17.05%			10.32	14.41	48.64%	19.73%			4.60
Low					(23.32)	5.86	5.51%	5.92%			2.06	5.07	9.69%	6.94%			0.62
<b>Selected</b>							<b>9.35%</b>						<b>16.70%</b>				<b>1.90</b>



# MONTANA DEPARTMENT OF REVENUE

Support for Direct Capitalization - Debt Capitalization Rate

Industry: Gas Pipelines

2020 Assessment Year

(\$ in Millions)

A	B	C	D	E	F	G	H	I	J
Ticker	Company	YE 2019 Interest Exp.	YE 2018 MV LT Debt	YE 2018 BV LT Debt	YE 2019 MV LT Debt	YE 2019 BV LT Debt	2019 Avg MV LT Debt	2019 Current Yield	MTBR
	<i>Source</i>	<i>10-K</i>	<i>10-K</i>	<i>10-K</i>	<i>10-K</i>	<i>10-K</i>	<i>(D+F)/2</i>	<i>(C/H)</i>	<i>(F/G)</i>
CNXM	CNX Midstream Partners LP	30	393	393	371	394	382	7.93%	0.94
DCP	DCP Midstream LP	304	5,170	5,307	6,130	5,924	5,650	5.38%	1.03
ENBL	Enable Midstream Part.	190	4,054	4,278	4,039	4,375	4,047	4.70%	0.92
EPD	Enterprise Products	1,243	25,942	26,178	30,845	27,625	28,394	4.38%	1.12
EQM	EQM Midstream Part.	210	4,050	4,082	5,724	5,762	4,887	4.30%	0.99
HESM	Hess Midstream Partners LP	62	981	981	1,820	1,754	1,401	4.46%	1.04
SMLP	Summit Midstream Partners LP	74	1,308	1,258	1,614	1,470	1,461	5.09%	1.10
TCP	TC PipeLines LP	88	2,101	2,108	2,111	2,003	2,106	4.18%	1.05
<b>All Companies</b>		2,202			52,654	49,307	48,326	<b>4.56%</b>	<b>1.07</b>
<b>Average</b>								<b>5.05%</b>	<b>1.02</b>
<b>Median</b>								<b>4.58%</b>	<b>1.04</b>
<b>Trimmed Average</b>								<b>4.72%</b>	<b>1.03</b>
High								7.93%	1.12
Low								4.18%	0.92
<b>Selected</b>								<b>4.60%</b>	<b>1.04</b>

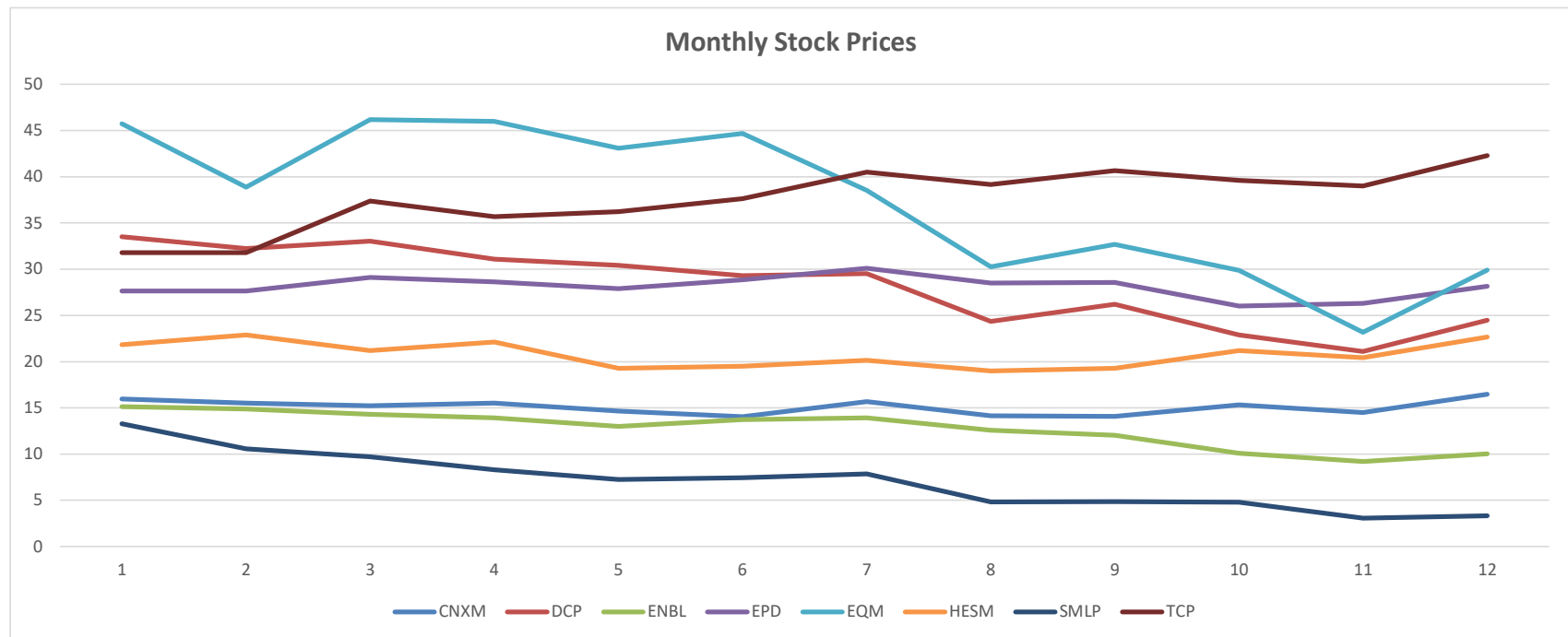
# MONTANA DEPARTMENT OF REVENUE

Support of Stock Price - From YAHOO Finance

Industry: Gas Pipelines

2020 Assessment Year

		End of Period Closing Stock Price											
1	2	3	4	5	6	7	8	9	10	11	12	13	14
A	B	C	D	E	F	G	H	I	J	K	L	M	N
Ticker	Company	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
CNXM	CNX Midstream Partners LP	15.96	15.51	15.21	15.51	14.66	14.05	15.68	14.15	14.1	15.33	14.5	16.46
DCP	DCP Midstream LP	33.53	32.23	33.05	31.1	30.42	29.3	29.54	24.36	26.21	22.89	21.11	24.49
ENBL	Enable Midstream Part.	15.14	14.87	14.32	13.92	12.99	13.71	13.93	12.6	12.03	10.09	9.19	10.03
EPD	Enterprise Products	27.67	27.65	29.1	28.63	27.89	28.87	30.11	28.51	28.58	26.03	26.32	28.16
EQM	EQM Midstream Part.	45.76	38.87	46.17	46	43.1	44.68	38.51	30.27	32.7	29.88	23.17	29.91
HESM	Hess Midstream Partners LP	21.84	22.88	21.2	22.1	19.3	19.5	20.16	18.99	19.26	21.2	20.45	22.68
SMLP	Summit Midstream Partners LP	13.3	10.58	9.73	8.3	7.26	7.44	7.86	4.82	4.86	4.79	3.06	3.31
TCP	TC PipeLines LP	31.79	31.78	37.36	35.7	36.23	37.62	40.49	39.15	40.67	39.62	38.99	42.3



# MONTANA DEPARTMENT OF REVENUE

## Maintenance Capital Expenditures Estimate Based on Guideline Companies

Industry: Gas Pipelines

2020 Assessment Year

(\$ In Millions)

1	2		3	4	5	6	7	8	9	10	11
A	B	C	D	E	F	G	H	I	J	K	L
Ticker	Company	Inflation	PP&E, Gross Current Year	PP&E, Gross Previous Year	Average PP&E	Depreciation Expense	Average Life of Assets			Replacement Cost (RC)	RC as % of Depreciation
								Note [1]	Note [1]	Note [1]	
		MTDOR (CPI)	10-K, Notes	10-K, Notes	(D+E)/2	10-K (CF)	F/G	C*H	1/(1+C)^H	G*I/(1-J)	K/G
CNXM	CNX Midstream Partners LP	2.20%	1,303	974	1,138	26	43	0.95	0.39	41	156.18%
DCP	DCP Midstream LP	2.20%	14,504	14,724	14,614	404	36	0.80	0.46	590	146.05%
ENBL	Enable Midstream Part.	2.20%	13,161	12,899	13,030	433	30	0.66	0.52	597	137.78%
EPD	Enterprise Products	2.20%	55,282	50,897	53,090	1,949	27	0.60	0.55	2,612	134.00%
EQM	EQM Midstream Part.	2.20%	8,572	6,368	7,470	223	33	0.74	0.48	318	142.35%
HESM	Hess Midstream Partners LP	2.20%	3,905	3,488	3,697	143	26	0.57	0.57	189	132.30%
SMLP	Summit Midstream Partners LP	2.20%	2,325	2,351	2,338	111	21	0.46	0.63	140	125.93%
TCP	TC PipeLines LP	2.20%	1,907	1,901	1,904	78	24	0.54	0.59	102	130.31%
<b>Average</b>											<b>138.11%</b>
<b>Median</b>											<b>135.89%</b>
<b>Trimmed Average</b>											<b>137.13%</b>
High											156.18%
Low											125.93%
<b>Selected</b>											<b>138.00%</b>

### Notes

[1] Cornell, B. & Gerger, R. (2017). Estimating Terminal Values with Inflation: The Inputs Matter-It Is Not a Formulaic Exercise. *Business Valuation Review*, Volume 36, Number 4, 117-123.